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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex parte* FRANK D. HUSSON, JR.

Appeal 2009-006297  
Application 10/039,277  
Technology Center 3700

Oral Hearing Held: May 11, 2010

Before JOHN C. KERINS, STEVEN D.A. MCCARTHY, and  
MICHAEL W. O'NEILL, *Administrative Patent Judges*.

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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1           The above-entitled matter came on for hearing on Thursday, May 11,  
2   2010, commencing at 1:45 p.m., at the U.S. Patent and Trademark Office,  
3   600 Dulany Street, Alexandria, Virginia, before Victoria L. Wilson, Notary  
4   Public.

5   CLERK: Good afternoon. Calendar Number 45, Appeal No. 2009-006297,  
6   Mr. Reiter.

7   JUDGE KERINS: Mr. Reiter, we have reviewed the record and are  
8   generally familiar with the issues presented and are looking forward to  
9   hearing your argument.

10   MR. REITER: Thank you very much. I appreciate the opportunity to meet  
11   with you and discuss the case today.

12   The present invention is a fairly simple yet, I would say, elegant  
13   combination of components which, taken together, achieve a very important  
14   goal, that being pasteurization of water.

15   This is accomplished by combining a number of elements in a very specific  
16   way, as set forth in the claims. Not only does one need to capture the energy  
17   of the sun in order to heat water adequately, but then one needs to minimize  
18   the loss of that energy once captured so that you can achieve the required  
19   temperature to, again, achieve the desired goal.

20   In addition, you would also like to be able to determine with some degree of  
21   certainty whether or not you reached the temperature level required to  
22   achieve pasteurization.

23   The claimed device accomplishes all of these requirements in a flexible,  
24   portable structure. It's made with readily available materials which makes it  
25   fairly inexpensive to make, which then allows not only inexpensive  
26   production but widespread distribution of this.

1 What I'd like to do is use this exemplar as a vehicle to quickly walk through  
2 the features of the claims, and we can compare that against the art that has  
3 been applied.

4 The bag itself, as the claim requires, has a top and a bottom. The bottom has  
5 a removable opening. This is where water would be both introduced and  
6 removed. The cap has a special feature of a temperature indicating -- it's a  
7 little hard to see from there. If you want I can come closer.

8 It's this glass tube which has wax in it, and there's a holder within the cap so  
9 that when the cap is in place and the bag is laid and exposed to the sun, the  
10 water in the bag would be in contact with that wax containing tube.

11 So long as the bag captures adequate energy to achieve pasteurization, the  
12 wax would melt. It will travel to the other end of the tube. By simple  
13 inspection of the status of the wax in that tube, one will know whether or not  
14 the contents of the bag have been exposed to adequate energy.

15 In addition to the simple top and bottom, some features you can readily see,  
16 for example, the bubble wrap on top, that is insulation so that, again, we do  
17 more than just capture the energy that comes in. We want it to stay there.

18 It would be very easy, and some prior art actually has mechanisms to release  
19 energy so they don't capture more than they want. Conversely, this bag has  
20 insulation both front and back so that when we are successful capturing solar  
21 energy, it stays there and helps us achieve the desired temperature.

22 I have another bag here which makes certain features easier to see. This is  
23 one that was simply inadequately sealed, but that makes it easier for us to  
24 see the interior of the bag.

25 So we can see there's the insulating layer, basically simple bubble wrap, on  
26 top. There's the transparent layer on top which forms the top of the bag.

1 We have the black which is important. That's the energy converting  
2 structure. We'll note the energy converting structure is at the bottom so that  
3 any incidental sunlight that comes through the bag, is captured by the black  
4 surface; and then we have the volume of water here to help capture. We've  
5 minimized the radiation losses of any heat that we capture.  
6 This bag also allows us to more readily see the insulation at the bottom so  
7 that we don't worry where we put the bag. We don't worry about losing heat  
8 that we've captured into the ground, or radiation.  
9 That, I believe, addresses the features. We can walk through the claim if  
10 deemed appropriate, but looking at the bag, we can see a number of features  
11 that all are required to be assembled.  
12 The further requirement of the claim is the insulation be adequate to allow  
13 achieving a temperature of at least 60 degrees. The temperature indicator is  
14 a positive way to determine if you've achieved that.  
15 One of the references, I believe, talks about temperature indication and says  
16 if you don't see indication of wax melting in one day, go ahead and leave  
17 your bag out for a second day. They imply that simply leaving it out for two  
18 days would be adequate.  
19 I don't know about you, but I wouldn't want to drink the water that didn't  
20 give me some good positive indication. I don't want to make assumptions  
21 that just because I've given it a certain amount of time it's probably reached  
22 the temperature that will inactivate various pathogens.  
23 Again, the temperature indicator is another important factor, and that's been  
24 incorporated in a very user-friendly way into this device. With that kind of  
25 as the back drop, we perhaps can go through each of the applied references.  
26 We can talk about what either is or isn't in those references, and kind of

1 compare back against the specific requirements of the claim which, again,  
2 reads pretty closely to the article I brought with me today.  
3 The primary reference, the U.K. Patent is entitled a solar energy heater.  
4 Again, they're simply looking to heat presumably for showers and those  
5 kinds of camping-type uses. I believe the Examiner actually acknowledged  
6 that heater, that bag, did not contemplate any insulation. It also had no  
7 temperature indication.

8 You take those two -- without insulation, part of the reason the claimed  
9 article has both bottom and top insulation is because that's what the  
10 inventors found was required to achieve adequate temperature to then  
11 achieve pasteurization in a reasonable period of time.

12 So the primary reference with no insulation --

13 JUDGE KERINS: Counsel, it has top insulation, does it not?

14 MR. REITER: I'm sorry?

15 JUDGE KERINS: The Great Britain reference has insulation on top, does it  
16 not?

17 MR. REITER: I don't recall that it had any insulation.

18 Oh, okay, heat-insulating base layer, that's right. With the concern being,  
19 you know, what were you setting the article on? There was a different one  
20 that had a port for auxiliary heat, like a candle or something.

21 You're right, this had insulation in the bottom, again, more with the thought  
22 of what kind of base are you sitting it on; but no insulation on the top.

23 JUDGE KERINS: Actually, this one has insulation on the top. It has an air  
24 pocket on top.

1 MR. REITER: Okay, so if we treat the air pocket on top -- I mean, we can  
2 compare the claim language where the first insulation structure or layer is  
3 defined as gas contained within air-tight structures (plural).

4 Even if we read this reference as having insulation with this air pocket, the  
5 air there is more a matter of helping to define the shape of that article.

6 Again, I would submit that it doesn't contemplate the gas contained  
7 within air-tight structures (plural) as is required here.

8 In any event, regardless of how we look at the insulation properties of that --  
9 we can look at the examples. They gave us, I believe, two examples, and  
10 they indicated achieving a temperature up to 58-59 degrees C, which does  
11 not achieve the threshold of 60 degrees which is required by the present  
12 claims.

13 Again, that I would say is in large part a question of is there insulation  
14 present? If so, what's the nature of that insulation?

15 JUDGE O'NEILL: Counsel, why couldn't it just be the time? It says after  
16 it's exposed for 50 minutes, the water temperature had risen to  
17 approximately 58 to 59 degrees Celsius.

18 He's saying -- his example is I've just left it out in the sun for 50 minutes,  
19 and I got up to this temperature; but what's to say if I leave it out for an extra  
20 10 minutes it doesn't go up another degree Celsius?

21 MR. REITER: That's a good point, there's no way to rule that out.  
22 Basically, what the two examples indicated, if nothing else, was -- it  
23 addressed rate of heating. Whether that is a max temperature or not is a fair  
24 question. The next example, the water started at 16 degrees and they only  
25 achieved 34 to 35 degrees in 30 minutes.

26 Why they chose those parameters --

1 JUDGE KERINS: Maybe it's for the fact that the prior art says it can be  
2 used for cleaning or heating or for use in swimming pools, or if there is  
3 nontoxic materials, it can be used for drinking. That's right above the  
4 example.

5 So if he gives you two, he might be saying this one we tried with the  
6 drinking, and this one we tried for home use.

7 MR. REITER: You raise a good point. The passage about if suitable  
8 nontoxic materials are used, that to me is a very ambiguous statement. Are  
9 they referring to the materials used in the construction of their bag, or are  
10 they referring to the source of water?

11 Because you can have very brackish water that could have a variety of  
12 components. Pasteurization, which is the goal of the present invention, is  
13 specifically targeted to treatment of pathogenic organisms and the required  
14 temperature and adequate time at that temperature is required to achieve the  
15 desired inactivation of pathogenic organisms.

16 JUDGE O'NEILL: Right, and you don't have the time factor claimed, you  
17 just have the temperature.

18 MR. REITER: That's right. Given the fact that the wax will not melt  
19 instantaneously, there is at least an implication of minimal exposure at the  
20 requisite temperature, if you see evidence the wax has fully traveled from  
21 the top end to the bottom end of the temperature indicator.

22 Again, the insulation properties of the primary reference, that's a question of  
23 how close they really get to what is being done here; and there is no means  
24 of monitoring temperature history.

25 There's no indication if you had a thermometer that you monitored that you  
26 could record what the history was. But the device itself and the reference



1 itself makes no indication -- provides no indication of what the exposure  
2 history has been.

3 JUDGE MCCARTHY: Wouldn't that flow naturally if you were to combine  
4 a wax and glass system from one of the secondary references?

5 MR. REITER: If you wanted to monitor the temperature, then there's a lot of  
6 different ways you can do that. The question is consistent with this being a  
7 simple, portable, inexpensive device, how can you do that?

8 Sure, you can use the thermometer, you can use temperature indicating strips  
9 that might be on the bag, you can use a variety of things. I believe one of  
10 the references does have --

11 JUDGE KERINS: Sodis is one that the Examiner relies on for the general  
12 teaching of the temperature indicator using paraffin.

13 MR. REITER: Yes.

14 JUDGE KERINS: Then relies on Ryder as teaching that it would be  
15 attached to the cap. Then Brewer as teaching that kind of temperature  
16 indicator can be a glass tube containing wax.

17 MR. REITER: Sodis, for example, and this is a good point -- Sodis has  
18 perhaps a more cumbersome operation where the indicator is placed down in  
19 the bottle. It has to be retrieved from the bottle to turn it over and basically  
20 reset it for further use and so on.

21 So that brings us to the Ryder reference which is really dealing with  
22 sterilization of contact lenses to show that you could -- to suggest that you  
23 could put the glass vial in the cap.

24 Again, the claimed device is a combination of a number of components.  
25 Sodis, at least, deals with water heating and so on. At least that would  
26 appear to be relevant to the present circumstance.

1 Then you can look at how that temperature indicator is manipulated, and I  
2 would say the inventors here have developed a far more user-friendly and far  
3 more simple way to -- first of all, the indicator is somewhat protected.

4 If Sodis was using a flexible vessel then it sure would appear that the  
5 temperature indicator would be subject to damage, whereas in this article the  
6 temperature indicator is largely protected.

7 So even as this bag is collapsed for transport or anything like that, you've got  
8 the temperature indicator is still right here, plus it's readily retrievable  
9 without fishing it out of the bottle or anything like that.

10 JUDGE KERINS: Isn't that why the Examiner cited to the Ryder patent to  
11 say once we have the notion that we want a temperature indicator to indicate  
12 temperature history of heating the water, we then turn to Ryder, which is a  
13 temperature indicator that's attached to the cap.

14 MR. REITER: I would guess that's a fair characterization of the Examiner's  
15 rationale for doing so.

16 The question is, in my mind, is Ryder a fair and appropriate -- is that really  
17 analogous art? Because sterilization of contact lenses is, I would think, a  
18 very different exercise than pasteurizing water.

19 I think one of the challenges with an invention like this is we can parse each  
20 element, each piece of this. The inventor did not invent bubble wrap. The  
21 inventor did not invent black surface as an energy attracting means. There's  
22 no single piece here, but it's the recognition that there is a need, and there  
23 was an extensive Declaration put on the record to indicate the interest really  
24 around the world in both the simplicity and inexpensive way in which this  
25 device can be put together and still accomplish the very important goal of  
26 water pasteurization.

1 So if it's fair and reasonable to draw from the contact lens art, if it's fair and  
2 reasonable to draw from a widely disparate field, then we may be getting  
3 closer to a conclusion that this is obvious.

4 On the other hand, I think we just have to look -- the Examiner has also  
5 pulled a fairly representative array of references that deal with either water  
6 heating, water boiling, water pasteurization, and at the end of the day this is  
7 a very unique combination of components to accomplish that goal.

8 Can we really take two steps back and just pluck and choose from, again,  
9 what at times, especially when we get into the contact lens art, can we really  
10 pick and choose from widely disparate art and legitimately say that all fits  
11 together with this circumstance?

12 JUDGE KERINS: If we could discuss briefly or extensively, the  
13 Declaration and the Exhibits attached to the Declaration.

14 MR. REITER: Yes.

15 JUDGE KERINS: The Examiner's position seems to be whatever long-felt  
16 need may be established by that, there's got to be more to secondary  
17 considerations than identifying a long-felt need. There has to be something  
18 establishing that claimed invention somehow satisfied the long-felt need  
19 where other devices, including the prior art, may not.

20 I'd like to have your take on that.

21 MR. REITER: I think that the Declaration not only establishes long-felt  
22 need, but it establishes a significant level of interest in how this inventor has  
23 addressed that long-felt need.

24 There is a substantial expression of interest, both from the United Nations  
25 perspective and from a number of third-world countries, or countries where  
26 access to treated water is limited.

1 Again, I think it's that resection, that reaction to the availability, the  
2 education, the outreach that the Inventor has done to inform the world, if you  
3 will, that here is a solution to that problem, then I think that taken together  
4 with the recognition of a long-felt need, there has been significant interest.  
5 One of the challenges is -- what the Inventor is attempting to do is to not  
6 only inform people in areas with this great need that this is available, but  
7 he's working to not be the producer here and can ship these; but to also  
8 empower locals to take advantage of the relatively simple construction of  
9 these so that they can do good locally as entrepreneurs, in addition to  
10 making these devices readily available in their home territories.

11 JUDGE KERINS: Correct me if I'm wrong, the evidence didn't show that  
12 anyone had taken the Inventor's lead and done anything overseas to  
13 manufacture them in their own country or anything like that?

14 MR. REITER: I'm not sure that any facilities are up and running at this  
15 point, but in a sense it's like any new product. I think there was indication of  
16 a village where the bags had been provided and there was very good uptake  
17 and use by the members of the village and that sort of thing.

18 That's a step along the way to getting -- implementing use and having people  
19 take advantage of what this provides.

20 JUDGE KERINS: Judge McCarthy? Judge O'Neill?

21 JUDGE MCCARTHY: No.

22 JUDGE O'NEILL: No.

23 JUDGE KERINS: We have no further questions. If you have any closing  
24 points you'd like to make, otherwise we'll take the case under advisement.

25 MR. REITER: I appreciate your time. It doesn't affect patentability per se,  
26 but this is in many ways a humanitarian effort undertaken by the Inventor.

1 I didn't bring a list with me, not that it's relevant, but it's been filed all over  
2 the world so that he has the protection in place to encourage entrepreneurs to  
3 take on the manufacture of something like this. It can be implemented in  
4 many places around the world where water is a significant issue.

5 JUDGE KERINS: Thank you, Mr. Reiter.

6 MR. REITER: Thank you for your time.

7 Whereupon, the proceedings at 2:12 p.m. were concluded.